SC ALUM SA TULCEA

Approved
General Director
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Plan to perform activities regarding production, maintenance, repairs and investment during the year - 2013

For 2013 there were analyzed the production schedule and the requirements regarding the works, materials, personnel costs in order to achieve the production plan and maintenance work, factory arrangements, at each installation level.

There were set specific consumptions and operating technological parameters considered the bauxite planed to be used in the production process (Sierra Leone and Boke).

A. Production and Mechanical & Electrical Departments

Considering all activities at a programmed production level for 2013, the plant number of employees was established at 680.

For the optimal production activity were carried out theoretical and practical training to all staff, both on-line training, and health and safety at work.

At present it is planned to continue and to organize new training courses for a number of activities such as: chemical operators, welders, boiler operator, steam turbine operator, crane operator, forklift driver for about 250 employees, and to achieve a second qualification of the personnel.

Work	Organization chart	Of which administrative personnel	Personnel activity
Production activity	367	11	Provides technical operations for the production of alumina
Mechanical & Electrical activity	159	6	Ensure the Maintenance and repair of equipment for the technological flow
Transportation	41	3	Ensure the grinding supply of bauxite and domestic transport needs. Rest of bauxite and alumina transport services being outsourced.
Planing	14	9	Provides production and repairs planning
Other activities	112	69	Auxiliaries and general services activities (commercial, financial, HR, IT, health and safety and environment, investment, laboratories)
TOTAL GENERAL	**693**	**98**	**Out of which 13 / 9 Administrative personnel for bauxite department**

B. Production Activity

During the year 2013 it was budget a level of production of 418,030 tones alumina, out of which 387,000 tones calcined alumina. Deliveries to Alro Slatina 374,915 tones calcined alumina. Shipping to export / others 12,000 tones alumina calcined. Other sales are in amount of 50,000 tons aluminum hydroxide.

There were established in the technological equipment used primarily in order to achieve the planned production. There were established operating parameters for Sierra Leone and Boke bauxite processing.
There are made action plans for reducing specific consumption of bauxite, caustic and thermal energy.

Also it is considered the continuation of studies for finding ways to use red mud as raw material for other industrial activities (steel, construction, agriculture etc. ...):

- At present are ongoing the tests to use the red mud in cement production - Lafarge Medgidia.
- It is scheduled a test for an acid soil land improvement - ICPA Bucharest
- Will be signed a contract to conduct some tests on red mud stored in mud pond, in order to perform a natural drying and carbonation resulting a decreasing of pH value.

Month	Alumina production t / month	Calcined alumina production t / month
Jan.	34,447	33,480
Feb	31,177	30,240
Mart.	34,447	33,480
April.	33,950	32,400
May	34,085	26,520
Jun.	35,190	33,750
Jul.	36,440	34,875
Aug.	36,440	34,875
Sept.	35,190	33,750
Oct.	35,190	28,080
Nov.	35,190	32,400
Dec.	36,285	33,150
Total	418,030	387,000

C. Department Maintenance Repair Activities

C1. Maintenance and repair activities

Main activity of the Department of Maintenance and Repair is keeping in running the installation and repairing the equipments according the approved Plan for Revisions and Repairs.

The budget for these activities in 2012 has a value of **3,035,041 USD** out of which 611,852 USD represents repairs that will be performed by third companies, 2,288,419 USD represents repairs done in-house and 134,770 USD there are maintenace services.

Major repairs performed by third companies:

- Repair of electric motors and coolers – 138,834 USD
- Repair of digestion battery E – 100,000 USD
- Repair resistance structures towers turning bauxite strip T1, T2 – 65,304 USD
- Thermal insulations – 54,179 USD
- Repair resistance structure in Precipitation – 43,344 USD
- Repair the refractory for Static Kiln – 37,925 USD
- Repair the boiler C2Ap no 2, replacement of the economizer stage 1 – 32,507 USD
- Reviews and repair of heavy vehicles – 39,167 USD
- Repair railways – 47,498 USD
- Repair of turbines and compressors – 14,173 USD
- Replacing registers – 16,254 USD
- Repairs for Grinding Mills – 21,672 USD
- Repair of vehicles – 27,212 USD

Major repairs performed with own forces:

- Repairs conveyor belts – 102,727 USD
- Repairs bauxite grinding mills (capital repair) – 109,014 USD
- Repairs on digestion batteries – 483,205 USD
- Repairs tanks DN 20 m – 29,637 USD
- Repairs tanks DN 35 m (major repairs) – 25,339 USD
- Repairs precipitation tanks – 26,505 USD
- Repairs alumina transport system – 161,172 USD
- Repairs on Static Calciner (1 repair) – 82,040 USD
- Repairs bag filters – 21,358 USD
- Repairs for Kelly Filters – 17,090 USD
- Repairs boilers and air compressors – 152,085 USD
- Repairs disc and drum filters – 45,330 USD

C2. Investment activities implemented with own forces

Maintenance and Repair department also develops specific activities to achieve with own forces putting into operation of approved investment.

Investments implemented with own forces

- Automatization works in Alum (Grinding, Red Filtration - Red mud Washing, White Filtration - Precipitation)
- Increasing the heat recovery capacity from pregnant liquor
- Increase the recirculation value in the existing cooling system (hyperbolic towers and tower EVAPCO forced circulation type) for industrial water used in cooling at grinding and Power House.
- Installing of 2 welded plate heat exchangers on the Red Mud washing line

Maintenance and repair department personnel also participate in tracking and completion of the works of investments made by third companies and provide the conditions necessary for the function of these investments.

C3. Continuous Improvement Activities

Besides maintenance and repair works, alike the planned investment, the Maintenance and Repair department have activities in accordance with approved plans to continuously improve the ALUM's operation of the equipment and installations, works to reduce energy consumption (air, industrial water, air, energy Electric), works to reduce specific consumption of raw materials, work for environmental protection.

Activities performed

- Completion and commissioning the additional burner on static kiln resulting a production capacity increase
- Prepare the technological causticization line in order to use calcined soda in the process having resulting a production cost reduction

D. Investments Activity

The 2013 ALUM's investments program is structured in one chapter comprising a number of two new investment objectives, having the ending date during the second part of the year and with a necessary provisioned budget of **668,000 US$.**

E. Budget proposed

The Alum's budget for 2013 provides total revenue of 166,207,412 USD from the sale calcined alumina and hydrate.
Total expenditure budgeted required for the production of 418,030 tons is 167,020,871 USD.
Thus, in 2013 Alum aims to achieve a gross loss of 813,459 USD.

Unit production costs are budgeted at 222.58 USD/ton of hydrate and 400.55 USD/ton for calcined alumina.

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